#### EMBRY RIDDLE AERONAUTICAL UNIVERSITY

# Aviation Wildlife Mitigation - 'Birdstrike news you can use'

Volume 3, issue 1 Spring 2009

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# Transport Canada Rule Change

Transport Canada announced in a press release that it was moving to improve aviation safety. According to Transport Minister John Baird: "We're moving today to better protect air passengers and crew. A key part of these amendments is focused on preventing incidents before they happen."

Transport has proposed and sent to Gazette Part I amendments to restrict aircraft speed on departure to 250 knots. It was the view of Transport that "...in the event of a bird strike, high-speed departures can result in severe damage to aircraft and injuries to passengers and crew. The proposed regulatory amendments will reduce such risks and enhance aviation safety. This would also harmonize the Canadian Aviation Regulations with International Civil Aviation Organization standards."

Many in Canada see this rule change as a legacy of former TC wildlife expert Bruce Mackinnon.

## **FAA Reverses Course**

On March 19th, the FAA's Acting Associate Administrator for Airports release a proposed rule change which would protect information in the FAA Wildlife Hazard Database from public disclosure, including FOIA requests. The FAA was "...concerned that there is a serious potential that information related to bird strikes will not be submitted because of fear that the disclosure of raw data could unfairly cast unfounded aspersion on the submitter". Therefore bird-strike reporting would decrease. Further the FAA stated that "When the FAA began collecting this data, it assured the entities submitting the data that the submissions would not be made available to the public". In fact, database information had been released a number of times, including to the press, through FOIA requests.

The proposed rule entered a 30 day public comment period. During this period over 55 comments were received at the www.regulations.gov website on this matter. The vast majority were from the general public who uniformly opposed the FAA action. While there were a few comments from industry people supporting the FAA's proposal, comments ran about 5-1 against it. Most commenters felt the FAA was attempting to 'hide' something. (cont'd on page 8)

# Flamingo Redeaux

In our last newsletter we reported that a Cyprus Airlines A330 suffered a dual engine ingestion during approach to London's Heathrow Airport. Apparently we were incorrect. We were informed by the UK CAA that, upon their inspection of the aircraft, a flamingo was found wrapped around one of the landing gear. We have it on creditable authority that flamingos are tropical birds and are not found in the wild in the UK.

However, they are found in large numbers in Cyprus, particularly in the lagoon areas around Cyprus' Lanarca airport, where they have been noted in populations up to 4,000. The inference is that this crew, during takeoff from Lanarca, struck a large flock of flamingos, knew they had hit the birds, yet continued their flight to London. This is roughly the same distance as Los Angeles to Atlanta. Upon arrival in London they reported the strike.



While this may seem to be a dubious decision on the part of the crew, it is important to remember that no airline offers its crews any training on the hazards of birdstrikes, nor does any regulatory agency require them to do so. So essentially the pilots only know what they read in the newspaper.



This is an obvious gap in our safety program which could and should be readily closed by both ICAO and state regulatory agencies in their oversight role. See the article, below, about the Delta Airlines accident in Rome for more on the same subject.

# **Careless or Reckless?**

The Italian ANSV has released its report on the significant Delta Airlines B767 incident at Rome in July, 2007. It is available on the ANSV website, in Italian. Valter Battistoni of the Italian BSC has provided us with an English version synopsis of the report. Shortly after liftoff the aircraft ingested at least 30 yellow legged gulls into both engines. Both engines began significant vibrations and one engine over-temped. The crew dumped fuel and returned for a safe landing.

Of interest, the report noted that the Delta crew noticed the birds during their taxi out, discussed the birds but did not report the birds nor did they ask for a bird scare to disperse the birds prior to takeoff. Instead they took off, damaged their aircraft and placed their passengers at risk. The ANSV found that "...the underestimation by the flight crew of the risks connected with the presence of birds, observed during the taxi, was a contributing factor...". Strangely the ANSV did not recommend training or procedures for the crew. It was different in Australia, however. In the Australian ATSB report 200605807 the ATSB noted that a



B767-300, departing Melbourne, struck a flock of 30-50 unspecified birds, causing the left engine to vibrate and the vibration indicator to read significantly above the safe level. The crew reduced power to lower the vibration level and (cont'd on page 3)

(cont'd from page 2)

continued on their flight to Sydney. Later inspection revealed bird strikes all over the aircraft, including ingestions into both engines and fan blade damage in both engines.

The ATSB faulted the crew and the airline as "...the decision to continue the flight to Sydney was made without a full appreciation of the aircraft damage and the potential risks to the safe conduct of the flight. Had the operator provided some operational guidance, taking into account the durability of the engine following a birdstrike and the increased risk of conducting a flight with one engine at reduced performance, the crew would probably have returned the aircraft to Melbourne".

The crew had no training regarding birdstrikes, nor was any required. The operator had no birdstrike policy other than to report strikes, nor was any required. Subsequently the report found that "...As a result of this incident the aircraft operator issued a Flight Standing Order on 6 October 2006 that provided a policy for flight crew in the event of a birdstrike on any of their twin engine aircraft fleet. The policy states:

Any time a birdstrike to an engine (or engines) is known to have occurred <u>AND</u> there is obvious sign of engine damage, then a landing at the nearest suitable Airport should be accomplished.

It noted that obvious signs of engine damage may include: increased vibration (either indicated or felt), a change in engine parameters that is not normal for the phase of flight, or significant difference in the parameters between engines."

# Op Ed

The ERAU Aviation Wildlife Newsletter actively promotes the exchange of ideas and encourages debate. Send your views to the editor at eschenfp@erau.edu for consideration.

The recent US Airways mishap in New York following strikes with multiple Canada Geese brought a flurry of public attention and highlighted many of the deficiencies in our current aviation wildlife hazard system. Although this was just one of several catastrophic incidents that have occurred as a result of bird strikes in the last year and a half alone, including others with fatalities, it is the only one that received such needed attention. I watched with great interest the ensuing congressional hearings on the matter and was struck numerous times at the level of ignorance or complacency about this issue. A few examples led me to believe some action is urgently needed to address the issue in the immediate future. The first officer's testimony that he first learned that his home airport had operations personnel working to keep birds and wildlife off the field when they gave him a tour following the accident really hit home. This is a man with 32 years of experience in the airline industry. What would he have done prior to his tour if a coyote or flock of geese were noted on or over the runway had he not known that someone was there to respond?

There is much that needs to be done to reduce the wildlife hazard to aviation. For the most part, management strategies for birds and other wildlife on airport property (cont'd on page 6)

# **Accident Report**

#### **FATAL**



The NTSB has issued a press release in which they now believe the cause of the loss of the Petroleum Helicopters S-76 in January, 2009, was a birdstrike. Eight of the nine people on board were killed. It is believed a raptor penetrated the front windscreen, either disabling the pilots or the engine controls. The aircraft was operating at 700

feet and 138 knots. The owner had recently replaced the front windscreen with an approved, lighter weight windscreen. Sikorsky now recommends aircraft with the lighter windscreens not operate in excess of 109 knots to achieve the equivalent level of safety.

# Multiple engine ingestion/hull loss



In January a US Airways A320 on departure from New York's LaGuardia Airport struck a flock of Canada geese at about 3,000'. The aircraft lost power on both engines and was forced to ditch in the Hudson River. No one was killed but the aircraft was destroyed. The aircraft had CFM56 power, the same engines as the Ryanair B737 accident aircraft in Rome, three months before, which crashed after a starling encounter.

The Belgium Air Accident Investigation Unit released their report on the loss of the Kalitta Air B747-200 at Brussels. According to the AAIU the crew heard a loud bang just after V1 and



experienced a power loss. The crew elected to abort the takeoff at this point, overrunning the runway by 300 meters and breaking up. Although BRU has the ICAO approved runway safety area of 90 meters, it had no EMAS bed. The AAIU believes the number 3 engine ingested a kestrel (small raptor). The crew was blamed for the accident for attempting to abort above V1.



## **Got Starlings?**

Have starlings on your airport? Tell us about it: where are they located, where do they roost, what do they eat, what kind of mitigation do they respond to? We will print your story and that of other starling sufferers.

Email: Eschenfelder@compuserve.com

# **Incident report**

Air carrier aircraft with operational impact caused by wildlife

#### December 2008

Iberia A320 bird ingestion, engine fail safe return to Madrid Wizz A320 birdstrike on takeoff safe return to Bucharest Delta B767 birdstrike on departure safe return to Orlando

Continental B767 birdstrike on landing Brussels

Vanguard B737-700 bird ingestion on takeoff safe return Port Harcourt, Nigeria Air Canada A320 compressor stall, bird ingestion safe return Ft. Lauderdale

Jetblue A320 birdstrike with goose on departure at JFK, possible flight control problem

safe return JFK

#### January 2009

1Time Air MD80 engine fail, bird ingestion safe return Port Elizabeth, S. Africa **USAirways A320** see accident reports New York LaGuardia Lufthansa A320 birdstrike on departure safe return Istanbul hi speed abort takeoff Jetblue A320 Orlando birdstrike on departure Interjet A320 safe return Guadalajara, Mexico Star Flyer A320 damage on landing Haneda, Tokyo #1 engine ingestion Turkish A321 safe return Istanbul Finnair B757 engine replacement Ahmadabad, India

#### February 2009

Republic RJ deer strike on landing Charlotte, NC
Japan Air A300 wing, engine, nose damage
Air Burkina MD80 damage on landing Abidjan, Ivory Coast

#### March 2009

Continental B737 #2 engine ingestion Newark, NJ T. Cook B767 damage on landing Banjul, Gambia

Aegean A320 multiple strikes on departure Lanarca, Cyprus (see Flamingo Redeaux

for more on problems in Cyprus)

American B737 damage on landing St. Georges, Bermuda

Easyjet A319 birdstrike on departure safe return Thessaloniki, Greece LAN B767 birdstrike on departure safe return Santiago, Chile

Southwest B737 damage on landing Orlando

Sriwijana Air hi speed abort Bandar Lampung, Indonesia

Space precludes further reports.

Sources: AON, press reports

#### (Op Ed cont'd from page 3)

are well determined. However, other aspects such as off airfield hazards, operational procedures, training of aviation personnel, remote sensing technologies, aircraft design standards, coordinated communications, involvement of the airline industry, and regulatory oversight are often neglected. These neglected areas are where the significant advances can and must be made in future wildlife hazard programs.

Airports must in theory be in compliance with these provisions in order to receive any federal grant assurance funding and for issuance of their Airport Certification Manuals (ACM) that allow them to operate. Yet compliance with many of these standards are routinely ignored and not uniformly enforced. The recommended practices as detailed by the FAA and others working in the industry are often in conflict with the missions and practices of other federal, state, and local agencies. Some airports actually promote and celebrate wildlife on their property and advertise as such to engender favorable public opinion or to gain construction permits.

Aircraft component design and testing standards have not kept up with the increasing threat of large and flocking bird species that make catastrophic aircraft accidents more likely to occur in the future. Pilot education and training is also sorely lacking. Many commercial airline pilots I have spoken with do not feel they have any discretion when it comes to potential wildlife conflicts. The entire aviation industry to include airports, airlines, pilot organizations, and others must join together to address this problem with new procedures, standards, training, implementation, and monitoring to address common concerns if any progress is to be made.

While there as been much attention given the wildlife hazard to aviation issue, suffice it to say at this point, there is still much to be accomplished. All aspects of the issue should be addressed with the goal of cooperation between and among all agencies, regulators, and industry groups to achieve a common purpose. I believe a comprehensive strategy to include potentially significant changes in the regulatory environment may be necessary to advance any efforts in this field. The time for that strategy is now if we are to move forward together and reduce the significant hazards wildlife pose to aviation.

#### Russell P. Defusco, PhD.

Dr. Defusco is a retired associate professor at the USAF Academy, former head of the USAF BASH Team, developer of the very successful USAF BAM model. A consultant, he works under contract with the Air Guard.



#### Fifth International Birdstrike Meeting

Cairns, Australia

September 21-24, 2010

www.int-birdstrike.org

# **Qualified Airport Biologist Listing**

Based on industry and airport community request, Embry Riddle Aeronautical University began vetting resumes of biologists who seek to work on airports. Under FAA Advisory Circular 150/5200-36 only biologists who qualify may conduct wildlife assessments on airports. As both airports and biologists have said they were having difficulty determining qualification, ERAU has set up a panel of experts who review biologists qualifications. If the applicant appears to satisfy the criteria in the Advisory Circular, the applicant's name is posted on the ERAU website.

A list of qualified biologists and applications for listing can be found on the web at: http://wildlife.pr.erau.edu/workshop/qualified biologists.html.



#### NEXT WILDLIFE HAZARD TRAINING SESSION

Embry-Riddle has scheduled its next airport wildlife training seminar for the Dallas-Ft Worth area on May 27-29, 2009. Our host, DFW International, will be providing classroom space.

Our next seminar, in conjunction with the Athens International Airport, will be September 28-30 in Athens, Greece.

This seminar is currently the only public training acceptable to the FAA Administrator to fulfill the FAA's training requirements of Advisory Circular 150/5200-36.

The seminar is three days in length. The first two days consist of classroom sessions led by the nation's top wildlife management experts. These sessions allow for plenty of interaction with the instructors, opportunities for questions and networking with fellow participants. Day three features a field trip to the host airport, during which hands-on wildlife mitigation exercises will be performed and mitigation techniques discussed.

Participants who successfully complete the seminar will receive a certificate of completion and continuing education units (CEU) from Embry-Riddle Aeronautical University.

You may register online at Embry-Riddle's website http://www.erau.edu/ec/soctapd/wildlifedfw.html or call 866-574-9125 for more information.

#### **Editorial**

What *are* they thinking? It can be the only response to the actions of a variety of flight crews in their encounters with birds. Nobody believes the crews are suicidal or stupid. So what is the problem? Why are they hazarding their aircraft and endangering their passengers? Principally it is a lack of training. Just as this editor is old enough to remember when the words "wind shear" were not in our aviation lexicon, 'birdstrike' just means nothing to these crews as they have had no training by their employers, nor does any national regulator require training on this hazard as they do with wind shear, volcanic ash, ground deicing and other hazards.

So the real question is: what *are* those airlines and those regulators, Transport Canada, FAA Flight Standards, ICAO, EASA, thinking? In the U.S. during a 16 month period from October 2007 until January 2009 we have lost 4 aircraft and 15 lives to collisions with birds. By the grace of God alone the loss isn't 170 lives. And the NTSB, which has investigated these accidents, what are *they* thinking? Virtually *no* recommendations on how flight crews should deal with birds. One can only marvel at the pain threshold of these corporations and government agencies. What level of loss is it going to take to galvanize these corporations and government agencies into action? Lawyers knocking on their doors, perhaps? That ought to do it. Shame. Paul Eschenfelder eschenfp@erau.edu

#### (cont'd from page 1)

On April 21st, the day after the public comment period closed, Transportation Secretary La-Hood told the Washington Post: "I think all of this information ought to be made public. . . . We're going to, you know, make this information as public as anybody wants it". Further Lahood stated that the FAA's efforts to keep birdstrike data secret "...doesn't comport with the President's idea of transparency". He also stated that "...it's something that somebody wanted to put out there to get a reaction. We got the reaction, and now we're going to bring it to conclusion."

On April 22nd the FAA issued a press release in which they announced that not only would database information be available to the general public but that the database would be posted on the FAA Wildlife Mitigation website. According to the press release "...the FAA has determined that it can release the data without jeopardizing aviation safety....over the next four months the FAA will improve the search function and make it more user friendly...".



#### 2009 Birdstrike North America Conference

Meets Sept. 14-17, 2009 Victoria, B.C.

go to: www.birdstrikecanada.com for more information